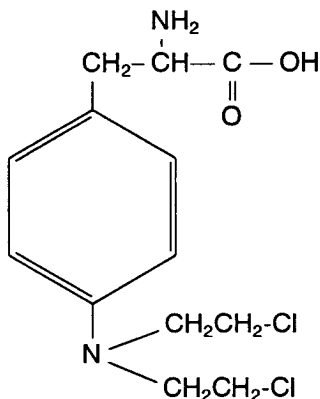


MELPHALAN

NSC - 8806



Chemical Name: 4-[Bis(2-chloroethyl)amino]-*L*-phenylalanine

Other Names: *L*-PAM; *L*-sarcolysine; Alkeran®; Sarcoclorin

CAS Registry Number: 3223-07-2

Molecular Formula: C₁₃H₁₈Cl₂N₂O₂

M.W.= 305.2

Approximate Solubility:	(mg/mL)
95% ethanol	<0.9
10% aqueous ethanol	≈1.3
Methanol	2.8 - 5.6
Water	1.7 - 2.3
Chloroform	<1
0.1 N HCL	9 - 17
0.1 N NaOH	7 - 10.6
Acetone	<1

pH 4 citrate buffer
pH 9 borate buffer

2.2 - 2.6
2.0 - 2.4

Stability:

Bulk:

A dried sample, stored at 60 °C for 15 days, showed about 10% decomposition as indicated by UV absorption and ionic chloride content.

Solution:

After 24 hours in water at 28°C, approximately 80% decomposition was observed (TLC).

Ultraviolet Absorption:

(H₂O)

$\lambda_{\text{max}} = 260 \pm 2 \text{ nm}$

$\epsilon = 17,410 - 17,880$

High Performance Liquid Chromatography:

Column: Beckman Ultrasphere, 5 μ , 250 x 4.6 mm i.d.

Mobile Phase: Methanol: 10 mM phosphate buffer, adjusted to pH 3.0 with phosphoric acid

Flow Rate: 1 mL/min

Detection: UV at 254 nm

Sample Preparation: 0.2 mg/mL in methanol

Internal Standard: Propriophenone, 0.2 $\mu\text{L/mL}$

Retention Volume: 11.8 mL (NSC - 8806)
15.9 mL (I.S.)

Optical Rotation:

(c = 0.7, methanol on a
dried basis)

$$[\alpha]_D^{24} = -31.5 \pm 2^\circ$$